

$K_1(1270)$ WIDTH

VALUE (MeV) DOCUMENT ID

90 ± 20 OUR ESTIMATE This is only an educated guess; the error given is larger than the error on the average of the published values.

87 ± 7 OUR AVERAGE Includes data from the 2 datablocks that follow this one.

PRODUCED BY K^- , BACKWARD SCATTERING, HYPERON EXCHANGE

VALUE (MeV) EVTS DOCUMENT ID TECN CHG COMMENT

The data in this block is included in the average printed for a previous datablock.

75 ± 15 700 GAVILLET 78 HBC + 4.2 $K^- p \rightarrow \Xi^- K \pi \pi$

PRODUCED BY K BEAMS

VALUE (MeV) DOCUMENT ID TECN CHG COMMENT

The data in this block is included in the average printed for a previous datablock.

90 ± 8 ⁶ DAUM 81C CNTR - 63 $K^- p \rightarrow K^- 2\pi p$

• • • We do not use the following data for averages, fits, limits, etc. • • •

~ 150 VERGEEST 79 HBC - 4.2 $K^- p \rightarrow (\bar{K} \pi \pi)^- p$

150 ± 71 ⁷ CARNEGIE 77 ASPK ± 13 $K^\pm p \rightarrow (K \pi \pi)^\pm p$

~ 200 BRANDENB... 76 ASPK ± 13 $K^\pm p \rightarrow (K \pi \pi)^\pm p$

120 DAVIS 72 HBC + 12 $K^+ p$

188 ± 21 FIRESTONE 72B DBC + 12 $K^+ d$

⁶ Well described in the chiral unitary approach of GENG 07 with two poles at 1195 and 1284 MeV and widths of 246 and 146 MeV, respectively.

⁷ From a model-dependent fit with Gaussian background to BRANDENBURG 76 data.

PRODUCED BY BEAMS OTHER THAN K MESONS

VALUE (MeV) EVTS DOCUMENT ID TECN CHG COMMENT

• • • We do not use the following data for averages, fits, limits, etc. • • •

131 ± 21 25k ⁸ ABLIKIM 06C BES2 $J/\psi \rightarrow \bar{K}^*(892)^0 K^+ \pi^-$

66 ± 15 310 RODEBACK 81 HBC $4 \pi^- p \rightarrow \Lambda K 2\pi$

60 40 CRENNELL 72 HBC 0 $4.5 \pi^- p \rightarrow \Lambda K 2\pi$

127 ⁺⁷ ₋₂₅ ASTIER 69 HBC 0 $\bar{p} p$

60 45 CRENNELL 67 HBC 0 $6 \pi^- p \rightarrow \Lambda K 2\pi$

⁸ Systematic errors not estimated.

PRODUCED IN τ LEPTON DECAYS

VALUE (MeV) EVTS DOCUMENT ID TECN CHG COMMENT

260 ⁺⁹⁰ ₋₇₀ ± 80 7k ASNER 00B CLEO ± $\tau^- \rightarrow K^- \pi^+ \pi^- \nu_\tau$

$K_1(1270)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $K\rho$	(42 \pm 6) %
Γ_2 $K_0^*(1430)\pi$	(28 \pm 4) %
Γ_3 $K^*(892)\pi$	(16 \pm 5) %
Γ_4 $K\omega$	(11.0 \pm 2.0) %
Γ_5 $Kf_0(1370)$	(3.0 \pm 2.0) %
Γ_6 γK^0	seen

$K_1(1270)$ PARTIAL WIDTHS

$\Gamma(K\rho)$ Γ_1

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	------------	----------------

• • • We do not use the following data for averages, fits, limits, etc. • • •

57 \pm 5	MAZZUCATO 79	HBC	+	4.2 $K^- p \rightarrow \Xi^- (K\pi\pi)^+$
75 \pm 6	CARNEGIE 77B	ASPK	\pm	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$

$\Gamma(K_0^*(1430)\pi)$ Γ_2

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	------------	----------------

• • • We do not use the following data for averages, fits, limits, etc. • • •

26 \pm 6	CARNEGIE 77B	ASPK	\pm	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
------------	--------------	------	-------	--

$\Gamma(K^*(892)\pi)$ Γ_3

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	------------	----------------

• • • We do not use the following data for averages, fits, limits, etc. • • •

14 \pm 11	MAZZUCATO 79	HBC	+	4.2 $K^- p \rightarrow \Xi^- (K\pi\pi)^+$
2 \pm 2	CARNEGIE 77B	ASPK	\pm	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$

$\Gamma(K\omega)$ Γ_4

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	------------	----------------

• • • We do not use the following data for averages, fits, limits, etc. • • •

4 \pm 4	MAZZUCATO 79	HBC	+	4.2 $K^- p \rightarrow \Xi^- (K\pi\pi)^+$
24 \pm 3	CARNEGIE 77B	ASPK	\pm	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$

$\Gamma(Kf_0(1370))$ Γ_5

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>CHG</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	------------	----------------

• • • We do not use the following data for averages, fits, limits, etc. • • •

22 \pm 5	CARNEGIE 77B	ASPK	\pm	13 $K^\pm p \rightarrow (K\pi\pi)^\pm p$
------------	--------------	------	-------	--

$\Gamma(\gamma K^0)$ Γ_6

<u>VALUE (keV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
--------------------	--------------------	-------------	----------------

73.2\pm 6.1\pm28.3	ALAVI-HARATI02B	KTEV	K + A \rightarrow K* + A
---	-----------------	------	----------------------------

$K_1(1270)$ BRANCHING RATIOS

$\Gamma(K\rho)/\Gamma_{\text{total}}$ Γ_1/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.42±0.06	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
dominant	RODEBACK	81	HBC 4 $\pi^- p \rightarrow \Lambda K 2\pi$

$\Gamma(K_0^*(1430)\pi)/\Gamma_{\text{total}}$ Γ_2/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.28±0.04	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$

$\Gamma(K^*(892)\pi)/\Gamma_{\text{total}}$ Γ_3/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.16±0.05	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$

$\Gamma(K\omega)/\Gamma_{\text{total}}$ Γ_4/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.11±0.02	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$

$\Gamma(K\omega)/\Gamma(K\rho)$ Γ_4/Γ_1

<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<0.30	95	RODEBACK	81	HBC 4 $\pi^- p \rightarrow \Lambda K 2\pi$

$\Gamma(K f_0(1370))/\Gamma_{\text{total}}$ Γ_5/Γ

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
0.03±0.02	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$

D-wave/S-wave RATIO FOR $K_1(1270) \rightarrow K^*(892)\pi$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.0±0.7	⁹ DAUM	81C	CNTR 63 $K^- p \rightarrow K^- 2\pi p$

⁹ Average from low and high t data.

$K_1(1270)$ REFERENCES

GENG	07	PR D75 014017	L.S. Geng <i>et al.</i>	
ABLIKIM	06C	PL B633 681	M. Ablikim <i>et al.</i>	(BES Collab.)
ALAVI-HARATI	02B	PRL 89 072001	A. Alavi-Harati <i>et al.</i>	(FNAL KTeV Collab.)
ASNER	00B	PR D62 072006	D.M. Asner <i>et al.</i>	(CLEO Collab.)
TORNQVIST	82B	NP B203 268	N.A. Tornqvist	(HEL5)
DAUM	81C	NP B187 1	C. Daum <i>et al.</i>	(AMST, CERN, CRAC, MPIM+)
RODEBACK	81	ZPHY C9 9	S. Rodeback <i>et al.</i>	(CERN, CDEF, MADR+)
MAZZUCATO	79	NP B156 532	M. Mazzucato <i>et al.</i>	(CERN, ZEEM, NIJM+)
VERGEEST	79	NP B158 265	J.S.M. Vergeest <i>et al.</i>	(NIJM, AMST, CERN+)
GAVILLET	78	PL 76B 517	P. Gavillet <i>et al.</i>	(AMST, CERN, NIJM+) JP
CARNEGIE	77	NP B127 509	R.K. Carnegie <i>et al.</i>	(SLAC)
CARNEGIE	77B	PL 68B 287	R.K. Carnegie <i>et al.</i>	(SLAC)
BRANDENB...	76	PRL 26 703	G.W. Brandenburg <i>et al.</i>	(SLAC) JP
OTTER	76	NP B106 77	G. Otter <i>et al.</i>	(AACH3, BERL, CERN, LOIC+) JP
CRENNELL	72	PR D6 1220	D.J. Crennell <i>et al.</i>	(BNL)
DAVIS	72	PR D5 2688	P.J. Davis <i>et al.</i>	(LBL)
FIRESTONE	72B	PR D5 505	A. Firestone <i>et al.</i>	(LBL)
ASTIER	69	NP B10 65	A. Astier <i>et al.</i>	(CDEF, CERN, IPNP, LVP) IJP
CRENNELL	67	PRL 19 44	D.J. Crennell <i>et al.</i>	(BNL) I

————— **OTHER RELATED PAPERS** —————

ABLIKIM	05Q	PR D72 092002	M. Ablikim <i>et al.</i>	(BES Collab.)
ROCA	05	PR D72 014002	L. Roca <i>et al.</i>	
SUZUKI	93	PR D47 1252	M. Suzuki	(LBL)
BAUBILLIER	82B	NP B202 21	M. Baubillier <i>et al.</i>	(BIRM, CERN, GLAS+)
FERNANDEZ	82	ZPHY C16 95	C. Fernandez <i>et al.</i>	(MADR, CERN, CDEF+) JP
GAVILLET	82	ZPHY C16 119	P. Gavillet <i>et al.</i>	(CERN, CDEF, PADO+)
SHEN	66	PRL 17 726	B.C. Shen <i>et al.</i>	(LRL)
Also		Private Comm.	G. Goldhaber	(LRL)
ALMEIDA	65	PL 16 184	S.P. Almeida <i>et al.</i>	(CAVE)
ARMENTEROS	64	PL 9 207	R. Armenteros <i>et al.</i>	(CERN, CDEF)
Also		PR 145 1095	N. Barash <i>et al.</i>	(COLU)
